A Case-Control Study of *Salmonella* Infection in Infants, FoodNet, 2002-2004 (Updated August 24, 2005)

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Background: Rates of salmonellosis are highest in infants. However, little is known about risk factors for disease in this high-risk group.

Methods: In 2002-2004, the Foodborne Diseases Active Surveillance Network (FoodNet) conducted a population-based case-control study of sporadic salmonellosis among infants <1 year of age in 8 states. Cases were identified via active laboratory-based surveillance. Well controls were frequency-matched by age and identified through birth registries or published birth announcements. We assessed diet and environmental exposures in the 5 days before illness onset or interview. Data were analyzed using logistic regression, adjusting for education and age, which was categorized as <3 months, 3-6 months and 6-11 months old.

Results: There were 442 cases and 928 controls enrolled in the study. Cases were significantly more likely to report exposure to reptiles (OR=5.2, 95% CI=3.4-7.9), riding in a shopping cart next to raw meat or poultry (OR=3.2, 95% CI=2.1-5.1) and consumption of reconstituted concentrated infant formula (OR=2.0, 95% CI=1.4-2.8). Travel outside the U.S. was a risk factor for those 3-6 months and 6-11 months of age (OR=11.4, 95% CI=1.2-109.7, and OR=22.9, 95% CI=2.4-217.8, respectively). Attending daycare with a child with diarrhea (OR=5.3, 95% CI=1.8-15.7) and consumption of meat (OR=1.7, 95% CI=1.1-2.7) were risk factors in those 6-11 months of age. Breastfeeding was protective in all age categories (overall OR=0.5, 95% CI=0.3-0.6), most strongly in those <3 months of age (OR=0.2, 95% CI=0.1-0.5).

Conclusions: We identified a number of modifiable risk factors for salmonellosis in infants, which can help focus education and preventive interventions in this high-risk group. Breastfeeding should be further encouraged for infants.